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10/009,134	10/20/2002	Chandrasekhar Satishchandran	NUCL-001/01US 306512-2006	5538

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EXAMINER	
CHONG, KIMBERLY	
ART UNIT	**PAPER NUMBER**
1635	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/009,134	SATISHCHANDRAN ET AL.	
	Examiner	Art Unit	
	KIMBERLY CHONG	1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,107-114,116-136,138-140,142-145,157-167 and 172-174* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *107-114,116-136,138-140,142-145,147, 157-167,172-174* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application/Amendment/Claims

The Amendment filed 03/27/2009 has been considered and prosecution has been re-opened. The limitation "wherein said two or more different double stranded RNA sequences are separated by cleavage sequences" which was previously recited in claim 115 and now added to claim 107 was not previously addressed in the rejection of record. The rejections of record in the final Office action mailed 04/25/2008 are hereby withdrawn. The following rejections and/or objections are newly applied and are the only rejections and/or objections presently applied to the instant application.

With entry of the amendment filed on 03/27/2009, claims 107-114, 116-136, 138-140, 142-145, 147, 157-167 and 172-174 are pending and currently under examination in the application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 107-114, 116-136, 138-140, 142-145, 147, 157-167 and 172-174 are provisionally rejected under the judicially created doctrine of double patenting over claims 119-135 of copending Application No. 10/836,856. This is a provisional double patenting rejection since the conflicting claims have not yet been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are drawn to a multitarget partially double-stranded RNA molecule and an expression vector comprising two or more different double stranded RNA sequences that are substantially homologous and complementary to two or more sequences of at least one target gene or substantially homologous and complementary to two or more sequences of more than one target gene and claims of copending Application No. 10/836,856 are drawn to a method of making two or more dsRNA molecules produced from a single RNA molecule using an expression vector.

Thus the instant claims and the claims of the copending application are drawn to patently indistinguishable subject matter because it would have been obvious to make the multitarget dsRNA molecule of the instant application. This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 107-114, 116-136, 138-140, 142-145, 147, 157-167 and 172-174 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claim 107 is drawn to a multitarget partially double-stranded RNA molecule comprising two or more different double stranded RNA sequences wherein said two or more different double stranded RNA sequences are separated by cleavage sequences.

The limitation "wherein said two or more different double stranded RNA sequences are separated by cleavage sequences" is new matter. This limitation was added in a claim amendment filed 06/24/2005 and Applicant pointed to support for this limitation on page 20, lines 17-24 of the instant specification which is included below:

> "The vectors designed to produce dsRNAs of the invention may desirably be designed to generate two or more, including a number of different dsRNAs homologous and complementary to a target sequence. This approach is desirable in that a single vector may produce many, independently operative dsRNAs rather than a single dsRNA molecule from a single transcription unit and by producing a multiplicity of different dsRNAs, it is possible to self select for optimum effectiveness. Various means may be employed to achieve this, including autocatalytic sequences as well as sequences for cleavage to create random and/or predetermined splice sites."

The discussion of such sequences for cleavage is disclosed in a general manner and there is no explicit support for specifically where such cleavage sequences are placed in relation to the dsRNAs. It is not readily apparent that the position of said

cleavage sequences is adequately supported by this paragraph or any other paragraph in the instant specification.

If Applicant believes the prior applications provide support then applicant must point, with particularity, to where such support can be found in the specification of the prior applications.

Claims 139 and 174 are drawn to a multitarget partially double-stranded RNA molecule of at least about 100 nucleotides in length wherein each different double stranded RNA sequences comprises at least 11 to 30 nucleotides. These claims embrace RNA molecules that encode dsRNAs wherein each dsRNA is 11 to 30 nucleotides in length.

The specification on page 17, lines 16-17 disclose the RNA molecule can be complete or partially double stranded and on page 20, lines 7-16, the specification discloses expression vectors designed to produce said RNA as described. Additionally the specification discloses the entire sequence of the RNA molecule can be double stranded, however the specification discloses the RNA polynucleotide sequence is 100 to 10,000 polynucleotides in length and more desirable at least 200 nucleotides. Therefore, while the entire RNA sequence can be double stranded, this RNA polynucleotide is disclosed to be at a minimum 100 nucleotides in length. Further, the RNA molecule which is a minimum of 100 nucleotides in length can further comprise a region of at least 11 to 30 nucleotides in length that can form a dsRNA region for

stability. This 11 to 30 nucleotide region is disclosed in the specification as a region for stability of the entire RNA molecule.

The specification does not contemplate an expression vector wherein the RNA molecule is comprised of different dsRNAs, each being 11 to 30 nucleotides in length.

If Applicant believes the prior applications provide support then applicant must point, with particularity, to where such support can be found in the specification of the prior applications.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 107-114, 116-136, 138-140, 142-145, 147, 157-167 and 172-174 are rejected under 35 U.S.C. 103(a) as being unpatentable over Werther et al. (cited on PTO Form 892 filed 08/07/2006), Fire et al. (cited on PTO Form 892 filed 08/07/2006), Heifetz et al (cited on PTO Form 892 filed 08/07/2006), Calabretta et al. (US Patent No. 5,734,039 cited on PTO Form 892 filed 03/08/2007), Taira et al. (cited on PTO Form 892 filed 11/22/2005) and Thompson et al. (cited on PTO Form 892 filed 08/07/2006).

The instant claims are drawn to a multitarget partially double-stranded RNA molecule and an expression vector comprising two or more different double stranded

RNA sequences that are substantially homologous and complementary to two or more sequences of at least one target gene or substantially homologous and complementary to two or more sequences of more than one target gene, wherein at least 11 to 30 nucleotides are involved in the double stranded RNA molecule, wherein said double stranded region comprises at least 50% homology to a target gene, wherein said partially double stranded RNA molecule is between 100 to 10,000 polynucleotides in length, wherein said double stranded region comprises a sense and antisense separated by a non-base paired polynucleotide region and is separated by cleavage sequences, wherein the target gene is from a pathogen such as a virus, wherein the target gene is associated with a disease in a mammal such as a cancer associated gene, wherein the target gene is selected from a transcribed, non-transcribed, coding, non-coding, exon-containing, regulatory or promoter sequence, wherein the double stranded region lacks a polyadenylation signal and a composition comprising said dsRNA.

Heifetz et al. teach production of a double stranded interfering RNA comprising introducing into plant cells DNA sequences encoding a sense RNA strand and an antisense RNA strand into an expression vector wherein the sense and antisense RNA strands are complementary to each other and form a double stranded RNA (see page 8). Heifetz et al. teach the complementary regions can be 15, 50 or 500 nucleotides in length (see page 11). Heifetz et al. teach the DNA sequences are preferably operably linked to one or more promoters wherein the promoter is a heterologous promoter (see page 10 last paragraph to the top of page 11). Heifetz et al. teach the DNA sequences

that form the double stranded RNA are inserted into the same vector wherein the sequences encodes a sense and an antisense strand separated by a linker capable of folding in a dsRNA, i.e. a hairpin RNA or the DNA sequences that encode a sense strand or an antisense strand are in separate vectors (see pages 8-9). Heifetz et al. teach viral vectors can be used to introduce the DNA molecules into the plant cells (see page 11) and further teach methods of altering the expression of a target gene by introducing a vector comprising said DNA sequences as stated above (see pages 12-13 and Examples 1 and 3). Heifetz et al. does not teach expression vectors comprising two or more different double stranded RNA sequence that are complementary to two or more sequences of at least one mammalian target gene and does not teach said expression vector expresses two different double stranded RNA sequences using two promoters wherein the promoters are RNA pol III promoters.

Werther et al. teach a multivalent antisense molecule targeted to two sequences of a target gene IGFBP or targeted to two or more sequences in different target genes such as IGFBP-2 and IGFBP-3 (see column 3).

Calabretta et al. teach a multivalent antisense molecule targeted to two sequences of cooperating oncogenes and teach vectors for expression of each said antisense molecules under the control of a corresponding first and second promoter (see column 19, lines 50-63).

Fire et al. teach double stranded RNA wherein the duplex regions of the RNA are capable of hybridizing with the target gene and can be formed from two strands or a single strand that forms a hairpin RNA wherein the length of the duplex regions are from

25 to 400 bases (see columns 7-8). Fire et al. teach expression vectors comprising T7 polymerase promoters and teach the target gene may be a cancer gene or viral gene and derived from any cell of any organism wherein the organism may be a plant, animal or human (see column 8, lines 12-20). Fire et al. additionally teach the target gene may be derived from any pathogen or any cell already infected by a pathogen such as HIV for example (see column 10, lines 8-18). Fire et al. teach the compositions comprising said dsRNA and agents that facilitate the uptake by the cell and teach the use of double stranded RNA for RNA inference is an effective alternative to antisense methodologies.

Taira et al. teach expression vectors capable of expressing different ribozymes wherein the sequences are separated by cleavage sequences, wherein the cleavage sequences are autocatalytic cleavage sites and the multitarget partially double stranded RNA lacks a polyadenylation signal (see columns 5-8 and Figure 7A). Taira et al. teach this type of expression system is not limited to only ribozymes but can be used to produced any type of RNA by replacing the ribozyme sequence with a sequence of interest and various promoters and vectors can be utilized to produce said RNA in any organism such as an animal (see columns 6-7).

Thompson teaches expression of therapeutic RNAs such as ribozymes and antisense RNA using RNA pol III based expression cassettes (see column 4, lines 11-20). Thompson teaches that in order for therapeutic RNAs to be effective, sufficient amounts must accumulate in the appropriate intracellular compartments (see column 10, lines 18-25). Thompson further teach pol III based expression cassettes are more attractive for expressing RNAs because pol III produces functional RNAs found in both

the nucleus and the cytoplasm, are likely to be expressed in all tissue types and accumulate to much greater levels in cells (see column 10, lines 27-39). Thompson teach these advantages of pol III expression cassettes are desired for expressing RNAs *in vivo* and more particularly antiviral RNAs *in vivo* (see column 10, lines 41-50). Thompson further teach production and accumulation of RNA transcripts produced from a pol III expression cassette in human 293 cells (see column 15 line 55 to column 16 line 9).

It would have been obvious to one of skill in the art to make a multitargeted double stranded RNA wherein said double stranded RNA targets at least one or more than one target gene and further it would have been obvious to use expression vectors comprising two promoters for expressing said dsRNAs.

One would have been motivated to make a multitargeted double stranded RNA targeted to two or more sequences of at least one target gene because certain target sequences are capable of mutation and targeting multiple sites on a target gene is advantageous for effective therapeutics. Further, one would have been motivated because certain diseases are triggered by expression from similar genes and therefore inhibition of multiple genes, as taught by Werther et al. is an effective method. Additionally, Calabretta et al. teach simultaneous targeting of genes using two antisense compounds is advantageous to inhibit expression of cooperating oncogenes responsible for cancer and therefore the skilled artisan would have clearly been motivated to express dsRNA using different promoter for efficient expression of each dsRNA targeted to a target gene for the purpose of inhibiting gene expression. One

would have been motivated to use dsRNA in mammalian cells because Fire et al. teach double stranded RNA capable of initiating RNA interference is more sequence specific alternative to reducing expression of a target gene than antisense type mechanisms (see columns 1-3). The expression cassette taught by Taira et al. allows for efficient expression of different ribozyme molecules capable of sequence specific inhibition of a target gene and Taira et al. teach this type of expression system comprising cleavage sequences between the ribozyme molecules can produce independent ribozymes each possessing different target sites wherein the ribozymes retain activity. To express different dsRNAs from an expression vector wherein the dsRNAs are targeted to one or more targets, one of skill in the art would have incorporated cleavage sequences as taught by Taira et al. for efficient expression of independent dsRNA molecules.

One of skill in the art would have been motivated to incorporate a RNA pol III promoter into the expression vector since Thompson teach pol III promoters are more attractive for expression of RNAs in all tissue types and the accumulation in the cells is greater from a pol III based expression vector. Moreover, both Heifetz et al. and Fire et al. teach expression vectors used for producing double stranded interfering RNA can comprise different promoters and Heifetz et al. specifically teach that promoters vary in their ability to promote transcription and one of skill in the art would choose a suitable promoter depending on the host cell system utilized (see page 15). Therefore, one would be motivated to use a pol III promoter for expression in mammalian cells, as taught by Thompson.

One would have had a reasonable expectation of success given that Werther et al. teach construction of multitarget antisense and Fire et al. and Heifetz et al. teach gene inhibition using double stranded RNA wherein said duplex region is complementary to said target gene and wherein said double stranded RNA is expressed using an expression vector comprising one or more promoters.

Thus, in absence of evidence to the contrary, the invention as a whole would have been *prima facie* obvious to one of skill in the art at the time the invention was made.

Claims 107-114, 116-136, 138-140, 142-145, 147, 157-167 and 172-174 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taira et al. (cited on PTO Form 892 filed 11/22/2005), Fire et al. (US Patent No. 6,506,559 of record 892 filed 08/07/2005) and Thompson et al. (cited on PTO Form 892 filed 08/07/2006).

The instant claims are drawn to a multitarget partially double-stranded RNA molecule and an expression vector comprising two or more different double stranded RNA sequences that are substantially homologous and complementary to two or more sequences of at least one target gene or substantially homologous and complementary to two or more sequences of more than one target gene, wherein at least 11 to 30 nucleotides are involved in the double stranded RNA molecule, wherein said double stranded region comprises at least 50% homology to a target gene, wherein said partially double stranded RNA molecule is between 100 to 10,000 polynucleotides in length, wherein said double stranded region comprises a sense and antisense

separated by a non-base paired polynucleotide region and is separated by cleavage sequences, wherein the target gene is from a pathogen such as a virus, wherein the target gene is associated with a disease in a mammal such as a cancer associated gene, wherein the target gene is selected from a transcribed, non-transcribed, coding, non-coding, exon-containing, regulatory or promoter sequence, wherein the double stranded region lacks a polyadenylation signal and a composition comprising said dsRNA.

Taira et al. teach expression constructs capable of expression of different ribozyme sequences that target 2 or more sequences of a HIV target gene (see Figure 3). Taira et al. the ribozyme molecules are separated by cleavage sequences, the cleavage sequences are autocatalytic cleavage sites and the multitarget partially double stranded RNA lacks a polyadenylation signal (see column 7 and Figures 7 and 11). Taira et al. further teach the ribozyme molecules can target one gene or more than one gene (see column 7, lines 23-29) and the multitarget ribozyme can be expressed from one single RNA molecule or from different RNA strands (see column 2, lines 29-59). Taira et al. teach a DNA molecule encoding the one or more ribozyme and further teach a plasmid expression vector wherein the ribozymes are expressed using a T7 bacteriophage promoter (see Figure 3). Taira et al. further teach an expression vector for reducing or inhibiting the function of the target gene wherein the expression vector encodes two or more ribozyme molecules complementary to two or more target sequences in one target gene (see Figure 13). Taira et al. teach this type of expression system is not limited to only ribozymes but can be used to produced any type of RNA by

replacing the ribozyme sequence with a sequence of interest and various promoters and vectors can be utilized to produce said RNA in any organism such as an animal (see columns 6-7). Taira et al. does not specifically teach a multitarget double stranded RNA wherein the RNA sequences are homologous and complementary to a target gene.

Fire et al. teach double stranded RNA wherein the duplex regions of the RNA are capable of hybridizing with the target gene wherein the length of the duplex regions are from 25 to 400 bases that are complementary to the target gene and wherein the double stranded RNA can be comprised of two separate strands or a single strand that forms a hairpin RNA which would comprise a sense strand and an antisense strand separated by a non-based paired sequence that forms the loop of the hairpin (see columns 7-8). Fire et al. teach expression vectors comprising T7 polymerase promoters and teach the target gene may be any gene such as cancer or viral and from any organism wherein the organism may be a plant, animal or human (see column 8, lines 12-20). Fire et al. additionally teach the target gene may be derived from any pathogen or any cell already infected by a pathogen such as HIV for example (see column 10, lines 8-18 Fire et al. teach the compositions comprising said dsRNA and agents that facilitate the uptake by the cell and teach the use of double stranded RNA for RNA inference is an effective alternative to antisense methodologies.

Thompson teaches expression of therapeutic RNAs such as ribozymes and antisense RNA using RNA pol III based expression cassettes (see column 4, lines 11-20). Thompson teaches that in order for therapeutic RNAs to be effective, sufficient

amounts must accumulate in the appropriate intracellular compartments (see column 10, lines 18-25). Thompson further teach pol III based expression cassettes are more attractive for expressing RNAs because pol III produces functional RNAs found in both the nucleus and the cytoplasm, are likely to be expressed in all tissue types and accumulate to much greater levels in cells (see column 10, lines 27-39). Thompson teach these advantages of pol III expression cassettes are desired for expressing RNAs *in vivo* and more particularly antiviral RNAs *in vivo* (see column 10, lines 41-50). Thompson further teach production and accumulation of RNA transcripts produced from a pol III expression cassette in human 293 cells (see column 15 line 55 to column 16 line 9).

It would have been obvious to one of skill in the art to make a multitarget double stranded RNA wherein said double stranded RNA targets at least one or more than one target gene and use the expression vector of Taira et al. and obvious to use a pol III promoter for expression of said dsRNA.

One would have been motivated to make a multitarget double stranded RNA targeted to two or more sequences of at least one or more target gene and express said dsRNA from the expression vector taught by Taira et al. because Taira et al. teach designing effective therapeutic inhibitors of expression of said target gene is hindered because of the mutability of viral target genes, such as HIV and one way to overcome this mutability rate of HIV is to target multiple sites simultaneously (see column 2, lines 29-59). One would have been motivated to use double stranded RNA because Fire et al. teach double stranded RNA capable of initiating RNA interference is more sequence

specific alternative to reducing expression of a target gene than antisense type mechanisms as taught by Taira et al. (see columns 1-3). One would have wanted to use the multitarget partially double stranded RNA to target multiple different genes given multiple genes are known to associated with certain diseases or disorders. One of skill in the art would have been motivated to incorporate a RNA pol III promoter into the expression vector since Thompson teach pol III promoters are more attractive for expression of RNAs in all tissue types and the accumulation in the cells is greater from a pol III based expression vector.

One would have had a reasonable expectation of success given that Taira et al. teach construction of multitarget ribozyme directed to several different sequences of an HIV target gene and Fire et al. teach gene inhibition using double stranded RNA wherein said duplex region is complementary to said target gene.

Thus, in absence of evidence to the contrary, the invention as a whole would have been *prima facie* obvious to one of skill in the art at the time the invention was made.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Chong whose telephone number is 571-272-3111. The examiner can normally be reached Monday thru Friday between 7-4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James (Doug) Schultz can be reached at 571-272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public. For more information about the PAIR system, see http://pair-direct.uspto.gov.

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/Kimberly Chong/
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